



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|------------------------------------------------------------------------------------------------------------------------|-------------|----------------------|---------------------------------|-----------------------------|
| 10/828,282 | 04/21/2004 | Keiichi Kushida | 252121US2S | 6377 |
| 22850 7590 08/14/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | EXAMINER BRITT, CYNTHIA H | |
| | | | ART UNIT 2117 | PAPER NUMBER |
| | | | NOTIFICATION DATE 08/14/2007 | DELIVERY MODE ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary

Application No.

10/828,282

Applicant(s)

KUSHIDA ET AL.

Examiner

Cynthia Britt

Art Unit

2117

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/30/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claims 1, 2, and 4-17 are pending in the present application. Claim 3 has been cancelled.

Response to Arguments

Applicant's arguments filed 5/16/07 have been fully considered but they are not persuasive.

Applicant argues "Claim 1 is directed to a semiconductor device that includes, *inter alia*, an error checking and correcting unit (ECC unit) configured to output a test pattern to the data memory, and to generate, from a Hamming matrix which meets a given condition and a transposed matrix of the test pattern, an error checking and correcting code (ECC code) as generated code data corresponding to the stored data and configured for use in checking bit errors of all cells in the data memory.

Independent Claim 14 is directed to a method that includes generating an ECC code from a Hamming matrix and a transposed matrix of a test pattern."

The examiner would like to point out that a test pattern is merely a sequence of bits and cannot be transposed as a matrix. Transposing a test pattern matrix is not disclosed in the specification and is therefore not enabled.

Specification

The amendment filed 5/16/07 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment

shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: 'a transposed matrix of a test pattern". A test pattern does not have a transpose matrix. A test pattern is generated using an error correction circuit that is based on a generating matrix. To check for errors, it appears the received data can be multiplied by the transpose of the parity matrix derived from the generating matrix. However, this point is not clearly explained or claimed.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 2, and 4-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Independent claims 1 and 14 recite the feature "a transposed matrix of the test pattern". Since a test pattern is known to be a sequence of bits or a vector, it is not a matrix and cannot be transposed. A test pattern does not have a transpose matrix. A test pattern is generated using an error correction circuit that is based on a generating

Art Unit: 2117

matrix. However, it seems that the applicant is attempting to claim a circuit based on a mathematical description of the circuit function. Although circuits may be designed by using mathematical models, if applicant is intending to claim a circuit, the features of the circuit itself should be claimed. To check for errors, it appears the received data can be multiplied by the transpose of the parity matrix derived from the generating matrix.

However, this point is not clearly explained or claimed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, and 4-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claims 1 and 14 recite the feature "a transposed matrix of the test pattern". Since a test pattern is known to be a sequence of bits or a vector, it is not a matrix and cannot be transposed. A test pattern does not have a transpose matrix. A test pattern is generated using an error correction circuit that is based on a generating matrix.

The applicant is attempting to claim a circuit based on a mathematical description of the circuit function. Although circuits may be designed by using mathematical models, if applicant is intending to claim a circuit, the features of the circuit itself should be claimed. See rejection above.

Claims 2, 4-13, and 15-17 are dependent on the independent claims 1 and 14 rejected above and therefore inherit the 35 U.S.C. 112, first and second paragraph

issues of the rejected independent claims. As such, the claims will not be given further consideration with respect to prior art.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

the disclosed invention is inoperative and therefore lacks utility. Independent claims 1 and 14 recite the feature "a transposed matrix of the test pattern". Since a test pattern is known to be a sequence of bits or a vector, it is not a matrix and cannot be transposed. A test pattern does not have a transpose matrix. A test pattern is generated using an error correction circuit that is based on a generating matrix. However, it seems that the applicant is attempting to claim a circuit based on a mathematical description of the circuit function. Although circuits may be designed by using mathematical models, if applicant is intending to claim a circuit, the features of the circuit itself should be claimed. To check for errors, it appears the received data can be multiplied by the transpose of the parity matrix derived from the generating matrix. However, this point is not clearly explained or claimed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The examiner invites applicant to call for an interview if there are questions on the above rejections that may more easily be resolved prior to submitting a response.

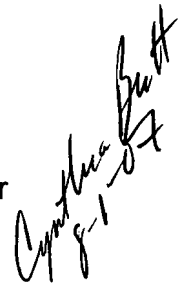
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Britt whose telephone number is 571-272-3815. The examiner can normally be reached on Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on 571-272-6962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2117

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cynthia Britt
Primary Examiner
Art Unit 2117

A handwritten signature in black ink, appearing to read 'Cynthia Britt', is written over the typed name and title.